

REMARKS/ARGUMENTS

Claims 1-3, 5, 7, 8 and 10-26 remain in this application.

1. § 103 Rejections

The Examiner has rejected claims 1-3, 5, 7, 8, 10, 13-21 and 23 under 35 U.S.C. § 103 as being unpatentable over Pantano et al. (US 2003/0054176) in view of Dela Ruye (US 4,339,541) further in view of Müller et al. (US 6,306,589) and Sega et al. (US 6,251,548).

The Examiner has rejected claims 9, 22, 26 and 27 under 35 U.S.C. 103(a) as being unpatentable over Pantano et al. (US 2003/0054176) in view of Dela Ruye (US 4,339,541) further in view of Müller et al. (US 6,306,589) and Sega et al. (US 6,251,548), as applied to claim 8, and Mizuno et al. (US 2002/0042068).

The Examiner has rejected claims 24 and 25 under 35 U.S.C. 103(a) as being unpatentable over Pantano et al. (US 2003/0054176) in view of Dela Ruye (US 4,339,541) further in view of Müller et al. (US 6,306,589) and Sega et al. (US 6,251,548).

The Examiner has rejected claims 11 and 12 under 35 U.S.C. 103(a) as being unpatentable over Pantano et al. (US 2003/0054176) in view of Dela Ruye (US 4,339,541) further in view of Müller et al. (US 6,306,589), Sega et al. (US 6,251,548), and Mizuno et al. (US 2002/0042068), as applied to claims 1 and 8, and Young et al. (US 6,391,809).

The Examiner has rejected claims 28-30 under 35 U.S.C. 103(a) as being unpatentable over Pantano et al. (US 2003/0054176) in view of Dela Ruye (US 4,339,541) further in view of Müller et al. (US 6,306,589), Sega et al. (US 6,251,548) and Tanner et al. (US 2003/0003474).

Regarding claims 1-3, 5, 18 and 19, the Examiner asserts that Pantano et al. teaches a porous substrate comprising: a nonporous support; and an inorganic porous region on a surface of the support, the inorganic porous region having a surface capable of immobilizing probe molecules, the inorganic porous region having a tint and exhibiting a reduced level of auto-fluorescence of at least about 50% relative to a comparable non-tinted porous substrate surface, which encompasses the recited reduced

auto-fluorescence values of at least about 15%, at least about 20-25%, and at least about 50%.

The Examiner also asserts that Dela Ruye teaches adding a colorant of nickel oxide and cobalt oxide, which absorb light in the visible spectrum, to a glass substrate, in order to provide coloring to a glass substrate.

Further, the Examiner asserts that Müller et al. teaches that color may be added to a glass substrate to provide a substrate with low autofluorescence and a substrate that absorbs light provides decreased autofluorescence.

Applicant traverses the Examiner's assertion that Pantano et al. teaches the inorganic porous region having a tint as required in claims 1 and 18 and claims depending therefrom. Pantano et al. teaches a nonporous substrate whose surface is modified in order to produce a porous SiO₂ rich surface as described on page 3, paragraph [0025]. Further, Pantano teaches coating a multiamino organosilane directly on the nonporous substrate or SiO₂ modified substrate as described on page 3, paragraph [0029]. Pantano et al fails to teach or suggest a tint as a component of the inorganic porous region. The substrates of Pantano et al. although they may be low auto-fluorescing; they are not tinted through the addition of a colorant component being added to the glass composition.

With respect to the Dela Ruye reference, the colorants of nickel oxide and cobalt oxide are added to the glass compositions, in order to avoid distorting the colour of any object viewed through the glass as described in Column 3, lines 5-9. The Dela Ruye reference is not concerned with the glass exhibiting a reduced level of auto-fluorescence of at least about 15% relative to a comparable non-tinted porous substrate surface exhibiting a reduced level of auto-fluorescence of at least about 15% relative to a comparable non-tinted porous substrate surface as required in claims 1 and 18 and claims dependent therefrom. Furthermore, the Dela Ruye reference does not teach or suggest a tinted inorganic porous region on a nonporous substrate as required in claims 1 and 18 and claims dependent therefrom. For window glass, an inorganic porous region on the substrate would not be conducive to minimizing distortion when viewed through as disclosed in the Dela Ruye reference .

Furthermore, Müller et al. describes, in Column 3, lines 4-12, opaque or colored glasses or plastic-based materials which are filters for varying wavelengths of light. In Column 3, lines 13-30, reflective metallic coatings are described for coating the substrates which by illuminating the surface of the coating at an appropriate angle, the excitation light is reflected away from collection optics, thus reducing auto-fluorescence. The Müller reference does not teach or suggest a tinted inorganic porous region on a nonporous substrate as required in claims 1 and 18 and claims dependent therefrom..

One skilled in the art of making porous substrates capable of immobilizing probe molecules looking to solve the problem of auto-fluorescence would not be motivated to combine:

Pantano teaching non-tinted borosilicate glass compositions for substrates,

Müller teaching opaque or colored non-porous substrates, and

Dela Ruye teaching compositions for window glass providing reduced distortion when objects are viewed through the glass.

For the above-mentioned reasons, there is no motivation to combine the references of Pantano, Dela Ruye and Müller to arrive at the present invention.

Also, in order to establish a prima facie case of obviousness Pantano et al. (US 2003/0054176) in view of Dela Ruye (US 4,339,541) further in view of Müller et al. (US 6,306,589) singularly or in combination must teach or suggest all of the claim limitations. None of the references alone or in combination teach or suggest the limitation of

“A porous substrate comprising: a support; and an inorganic porous region on a surface of said support, the inorganic porous region having a surface capable of immobilizing probe molecules, the inorganic porous region having a tint and exhibiting a reduced level of auto-fluorescence of at least about 15% relative to a comparable non-tinted porous substrate surface, wherein said tint comprises Co₃O₄ and NiO.”

as required in claims 1, claim 18 and claims depending therefrom.

Regarding claims 9, 11, 12, 22, 24-30 given the fact that Pantano et al. (US 2003/0054176) in view of Dela Ruye (US 4,339,541) further in view of Müller et al. (US 6,306,589) is the basis for further combination with Sega et al. (US 6,251,548), Mizuno et al. (US 2002/0042068), Young et al. (US 6,391,809) and Tanner et al. (US

2003/0003474), none of the teachings of these references would have been considered or combined without the Dela Ruye reference. One with ordinary skill in the art would not have looked to the Dela Ruye reference to solve the problem contemplated by the Applicant (reducing auto-florescence on an inorganic porous substrate for immobilizing probe molecules). The Pantano, Dela Ruye and Müller references do not teach, suggest or motivate their combination. Since independent claims 1 and 18 are patentably distinguishable from the combination of Pantano, Dela Ruye and Müller, then claims dependent therefrom cannot be obvious and the Examiner's arguments are moot.


Based upon the above amendments, remarks, and papers of records, applicant believes the pending claims of the above-captioned application are in allowable form and patentable over the prior art of record. Applicant respectfully requests that a timely Notice of Allowance be issued in this case.

Applicant believes that no extension of time is necessary to make this Reply timely. Should Applicant be in error, Applicant respectfully requests that the Office grant such time extension pursuant to 37 C.F.R. § 1.136(a) as necessary to make this Reply timely, and hereby authorizes the Office to charge any necessary fee or surcharge with respect to said time extension to Deposit Account 03-3325.

Please direct any questions or comments to the undersigned.

Respectfully submitted,

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